Notice of Allowability	Application No.	Applicant(s)	
	09/539,357	BRILL ET AL.	
	Examiner	Art Unit	
	Jonathan D. Schlaifer	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *RCE 4/4/05*.

2. ☒ The allowed claim(s) is/are *1,4-39 and 49-53*.

3. ☒ The drawings filed on *3/31/00* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *6/14/2005* .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

The application has been amended as follows:

1. (Currently amended) A computer-implemented method for determining a likelihood that a word in a dictionary is being incorrectly represented by a string; comprising: iteratively partitioning the word into multiple segments, each segment consisting of a character or character sequence, where each iteration partitions the word in to a different number of the multiple segments; for each iteration of the partitioning, iteratively varying the lengths of the segments while maintaining the number of the segments; for each iteration of the partitioning, dividing the string into the same number of string segments as the number of word segments and iteratively varying the lengths of the string segments, wherein corresponding word segments and string segments can be of different lengths; for each iteration of varying the lengths of the word segments and the string segments, computing a probability for each pair, wherein each pair consists of a word segment and a corresponding string segment, and wherein the probability consists of a likelihood that the word segment is being incorrectly represented by the string segment; for each iteration of varying the lengths, computer a product of the probabilities of the pairs; and determining the likelihood that the word is being incorrectly represented by the string based on one of the products.

10. (Currently amended) A computer-implemented method comprising: determining a probability $P(s|w)$ expressing how likely a word w was to have been incorrectly entered as the string s based on partitioning the word w and the string s and computing probabilities for various partitioning, wherein a probability for a partitioning represents the probability that one or more edit operations convert first arbitrary-length character sequences α_1, α_2, α_3, ..., α_n in the word $w$to

corresponding second arbitrary-length character sequences $\beta_1, \beta_2, \beta_3, \ldots, \beta_n$ in the string s, wherein: $P(s|w) = P(\beta_1|\alpha_1) * P(\beta_2|\alpha_2) * P(\beta_3|\alpha_3) * \ldots * P(\beta_n|\alpha_n)$

17. (Currently amended) A computer-implemented method comprising: receiving an entered string s; and determining a probability $P(s|w)$ expressing how likely a word w was to have been incorrectly entered as the string s, by partitioning the word w and the string s and computing probabilities for various partitionings, as follows:

$$P(s \mid w) = \sum_{R \in Part(w)} P(R \mid w) \sum_{\substack{T \in Part(s) \\ |T|=|R|}} \prod_{i=1}^{|R|} P(T_i \mid R_i)$$ where Part(w) is a set of possible ways of partitioning the word w, Part(s) is a set of possible ways of partitioning the string s, R is a particular partition of the word w and T is a particular partition of the string s.

23. (Currently amended) A computer-implemented method comprising: receiving an entered string s; and determining a probability $P(s|w)$ expressing how likely a word w was to have been incorrectly entered as the string s, by partitioning the word w and the string s and computing probabilities for various partitionings, as follows:

$$P(s \mid w) = \max_{R \in Part(w), T \in Part(s)} P(R \mid w) * \prod_{i=1}^{|R|} P(T_i \mid R_i)$$ where Part(w) is a set of possible ways of partitioning the word w, Part(s) is a set of possible ways of partitioning the string s, R is a particular partition of the word w and T is a particular partition of the string s.

30. (Currently amended) A computer-implemented method comprising: receiving an entered string s; and determining a probability $P(s|w)$ expressing how likely a word w was to have been incorrectly entered as the string s, by partitioning the word w and the string s and

finding a partition R of the word w and a partition T of the string s such that $\prod_{i=1}^{|R|} P(T_i \mid R_i)$ is maximized.

35. (Currently amended) A computer-implemented method for training an error model used in a spell checker, comprising: determining, given a <wrong, right> training pair and multiple single character edits that convert characters in one of the right or wrong strings to characters in the other of the right or wrong strings at differing costs, an alignment of the wrong string and the right string that results is a least cost to convert the characters; collapsing any contiguous non-match edits into one or more common error regions, each error region containing one or more characters that can be converted to one or more other characters using a substitution edit; and computing a probability for each substitution edit.

40-48. (Cancelled)

54-57. (Cancelled)

STEPHEN HONG
SUPERVISORY PATENT EXAMINER